North American Drought Monitor - June 2007

CANADA: Extreme weather was the topic this month, as several thunderstorms with hail, tornadoes and heavy rainfall were reported in Alberta, Saskatchewan, Manitoba, and Ontario. For the majority of Canada, conditions improved as a result of ample rainfall. For the areas that were missed by thunderstorms, conditions continued to decline. These areas included northern and southern Alberta, southern Ontario, and north of Quebec City.

British Columbia: Dry conditions still persist in south-central parts of the province, with the Okanagan, Nicola/Coldwater, Similkameen and Kettle River basins classified as abnormally dry (D0). Some recent rainfall events have helped to ease water-supply concerns, but normal or above-normal rainfall is needed for the rest of the summer to minimize the drought risk potential in these areas.

Alberta: Significant rainfall was reported in central, eastern, and west-central Alberta, with accumulations over 100mm for June. Although the majority of Alberta has excess soil moisture, conditions in the northeast, outside the agricultural area, remain dry, as well as those in the northern tip of the Peace River region and pockets in the southern region. For these areas, soil moisture reserves are below normal, and thus have been classified as abnormally dry or in moderate drought (D0 or D1), depending on the severity of conditions.

Saskatchewan: Over the last month, significant rain was received over the west-central and southeast portions of the province. Although the southern portion did not receive heavy amounts of precipitation, the Swift Current area previously labeled as abnormally dry (D0) has improved. Generally, crops and soil moisture are in good to excellent condition throughout Saskatchewan.

Manitoba: In Manitoba, several thunderstorms with hail, tornadoes, and heavy rain have aggravated the existing excessive moisture situation in eastern, central, and northwestern areas. Also, in the central areas, High Water Level advisories have been issued for the Red River and the Seine River, which is currently 29.4 feet above its normal summer level, making it the third-worst summer flood on the Red River. As a result, there are no drought concerns at this time.

Ontario: Conditions in northwestern Ontario improved greatly, as a number of summer storms moving through the area dropped more than 100mm of rain during June. The area previously identified as in severe drought (D2) has vanished. This is in direct contrast to southern Ontario, which experienced the second-driest June on record. In this area, precipitation amounts are between 40 to 85% of normal for the last three months. The Ontario Ministry of Natural Resources has classified the Lower Thames, Long Point, Grand, Catfish, Toronto, Ausable, Niagara, St. Clair, and Nottawasaga Conservation Authorities as confirmed low water flow conditions.

Quebec: Recent showers brought some relief to some dry areas throughout the province and growing conditions are generally good, with crops developing well. While the majority of Quebec is looking good, the area in the Lac-Saint Jean region north of Quebec City has dried up. Over the last three months, this area has received between 60 to 85% of normal precipitation and irrigation is being recommended in some areas.

Atlantic Canada: Unseasonably cool, wet weather in June resulted in much-needed moisture in many locations. Although some areas are still drier than normal, there are no drought concerns at this time.

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Natural Resources Canada - Canadian Forest Service
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Saskatchewan Watershed Authority

UNITED STATES: During June, dryness or drought persisted or expanded much of the West and Southeast. A pocket of extreme to exceptional drought (D3 to D4) remained intact across the interior Southeast, while extreme drought developed in the western Great Basin and continued in southern California and western Arizona. In contrast, heavy rain eradicated abnormal dryness (D0) in parts of North Dakota, Arkansas, and Louisiana. Tropical Storm Barry and ensuing rainy-season showers provided some drought relief across the southern Atlantic States. Meanwhile, several areas of abnormal dryness and moderate drought (D0 and D1) were introduced across parts of the High Plains, the upper Midwest, and the Great Lakes, Northeastern, and Mid-Atlantic States.

Agricultural Highlights: During June, much of the Ohio Valley remained unfavorably dry for summer crops, although winter wheat maturation and harvesting progressed rapidly. Meanwhile, developing dryness became a concern for some heading spring wheat on the northern Plains, along with corn and soybeans in the upper Midwest. Yet, Midwestern crop stress was relatively minor compared to drought-ravaged pastures and summer crops across the interior Southeast. In the wake of a record-dry spring, Tennessee, Alabama, and Mississippi received little relief. In contrast, Tropical Storm Barry crossed the southern Atlantic region in early June, subduing the wildfire threat, easing crop stress, and signaling the arrival of a more typical rainfall regime. Most of the West, however, experienced a continuation of hot, dry weather. As a result, winter grains ripened quickly but the condition of rain-fed summer crops gradually deteriorated. Other

effects of Western heat and drought included an elevated threat of wildfires and heavy irrigation requirements.

By July 1, the U.S. Department of Agriculture reported the following portions of the nation's crops were rated in good to excellent condition: spring wheat, 79%; corn, 73%; soybeans, 68%; cotton, 54%; and peanuts, 35%. However, there were some serious regional- and state-level concerns related to drought:

In Washington, 21% of the spring wheat crop was rated very poor to poor due to developing dryness. Corn was rated at least 20% very poor to poor in the following major production states: Tennessee (47%), North Carolina (30%), and Kentucky (20%). Similarly, soybeans were rated at least 20% very poor to poor in Tennessee (29%) and Ohio (23%). Cotton was rated 74% very poor to poor in Alabama, along with 29% of the crop in Georgia. Peanuts, seriously affected by drought, were rated 64% very poor to poor in Alabama, 63% in Florida, and 24% in Georgia. On July 1, range and pastureland was rated at least 40% very poor to poor in the following 14 states: California (95%), Alabama (86%), Tennessee (72%), Georgia (68%), Mississippi (66%), Kentucky (62%), Florida (60%), Indiana (49%), Pennsylvania (49%), Virginia (48%), Ohio (47%), Arizona (46%), Nevada (46%), and North Carolina (45%).

Historical Perspective: June temperatures averaged 70.7 degrees F (21.5 degrees C) across the contiguous United States, according to preliminary information provided by the National Climatic Data Center. That value was 1.4 degrees F (0.8 degrees C) above the 20th-century mean and represented the 23rd-highest reading during the 113-year period of record. State rankings ranged from the 17th-coolest June in Texas to the 12th-warmest June in Utah. Meanwhile, precipitation averaged 2.64 inches (67 mm), or 91% of the 1901-2000 mean, resulting in the 33rd-driest June since 1895. Oklahoma, with a monthly average rainfall of 8.42 inches (214 mm), experienced its second-wettest June behind an 8.73-inch (222-mm) total in 1908. In contrast, it was the tenth-driest June in Tennessee.

For the first half of 2007, state precipitation rankings ranged from the fourth-wettest January to June in Texas (21.50 inches [546 mm], or 155% of normal) to the driest such period in Mississippi (16.17 inches [411 mm], or 53%) and Alabama (15.37 inches [390 mm], or 53%). It was the wettest first half of a year in Texas since 1957, when 21.63 inches (549 mm) fell. The previous January-June record for dryness in Mississippi was established in 1941 (18.66 inches, or 474 mm); Alabama's former standard of 15.96 inches (405 mm) had stood since 1914.

MEXICO: June was slightly hotter than normal, registering a monthly average temperature of 25.0ºC, while the normal mean temperature is 23.8ºC. At the national level, June precipitation averaged 96.4mm (3.79 inches), only 7% below the climatological average of 103.8mm (4.08 inches). As a consequence, only few changes were observed in the drought pattern over Mexico in June. The National Meteorological Service (SMN) reported June 2007 as the 24th-driest such month since 1941.

Abnormally dry conditions (D0) were observed over the southern Baja California peninsula, with a small area increased to moderate drought (D1).

Extreme drought conditions (D3) prevailed over Sonora and the northern part of the Baja California peninsula due to persistent precipitation shortages. Because of low precipitation registered in the region, severe drought conditions (D2) were expended over most of Sonora and northern Sinaloa, where reservoirs levels are decreasing and at 44% of capacity. Severe to extreme drought conditions (D2 to D3) persisted near the Sinaloa and Nayarit border and in parts of Jalisco, Colima, Michoacán, and Guerrero.

Abnormally dry conditions (D0) increased to moderate drought (D1) over Valle de Mexico, even though rains improved the dam's water reserves of the region. However, rainfall was not sufficient to improve the conditions of moisture in the ground.

Moderate drought (D1) was expanded to southeastern Veracruz, Chiapas, and Campeche. Areas with severe drought conditions (D2) were observed in Tabasco, Chiapas, Campeche, Yucatán and Quintana Roo, in spite of some rainfall. The progression of tropical wave was not sufficient to relieve drought damage. However, dam levels in the region showed a small increase.

Abnormally dry (D0) conditions expanded from the Sierra Madre Occidental states to Sierra Madre del Sur states and the Llanura Costera of the Gulf of Mexico. Finally, a new area of moderate drought (D1) was identified in northern Veracruz and southern Tamaulipas.

The official agency CONAFOR indicated that during the last week of the month there were 31 wildfires in 6 states, affecting a 1,857.86ha (4590.7 acres). The affected vegetation included pastures, shrubs, and bushes, with a minor percentage of wooded areas. The most affected states were: Chihuahua, Coahuila, Baja California, Sonora, and Tabasco.

It is very important to mention the unique distribution of June rainfall in Mexico. The Northwest, Occident, South, Southwest, and Yucatan Peninsula marked a precipitation deficit up to 65-85%. Meanwhile, the Northeast and some states located over the central plateau of Mexico registered precipitation surpluses with anomalies of 240% in Aguascalientes, 104% in Coahuila, 84% in Zacatecas, 82% in Durango, 71% in Guanajuato, 49% in Nuevo Leon, and 33% in Jalisco.